

IN THE SPECIFICATION

Please amend the Specification, as follows:

(a) Please replace par. [0009] with the following amended paragraph:

--[0009] In the prior art, however, in PRML signal processing, errors can occur more easily as the Euclidean distance between correct and error bitstreams is shorter. Generally, such a bitstream includes shortest contiguous bits conforming to a minimum run-length constraint, such as 2T. A deviation causing may be caused between the reference level and the level of the equalized signal produced by a minimum run-length sequence of, for example, 2T ~~such a bit error between a reference level used in maximum likelihood decoding and the peak level of an equalized signal can be known from a histogram of the reference level and the equalized signal~~. Thus, according to the prior art, a deviation is caused between the reference level and the peak level of the equalized signal in shortest contiguous bits of, for example, 2T. This increases the probability of causing bit errors in decoding processing by a maximum-likelihood decoder in a rear stage.--

(b) Please replace par. [0030] with the following amended paragraph:

--[0030] In the optical disk apparatus A according to the invention (first embodiment), the data processing unit 1 is further arranged to include the configuration shown in FIG. 1 to correct a difference between a reference level of maximum-likelihood decoding and a peak level of an equalized signal. Specifically, for example, equalized signals output from an equalizer are amplified at amplification factors to cause peak levels LP2 and LP4 corresponding to peaks in a central portions portion of the histogram for determining generated by run-lengths of 2T or the like to have potentials substantially matching reference levels LV2 and LV4, respectively. This enables a maximum-likelihood decoder to implement reliable decoding processing without causing an erroneous erroneous determination in comparison processing between the equalized signal and the reference level.--

(c) Please replace par. [0063] with the following amended paragraph:

--[0063] Referring to FIGS. 1 and 6 to 9, the first embodiment in the above-described optical disk apparatus according to the invention will be described in detail hereinbelow. FIG. 6 is an example of a histogram of equalized signals before being corrected by the variable gain amplifier ~~and to~~ reference levels of the Viterbi decoder of the optical disk apparatus according to the first embodiment. FIG. 7 is an example of a histogram of equalized signals having been corrected by the variable gain amplifier ~~and to~~ the reference levels of the Viterbi decoder of the optical disk apparatus according to the first embodiment. FIG. 8 is an example of a histogram of asymmetrically-distributed equalized signals before being corrected by the variable gain amplifier and the reference levels of the Viterbi decoder. FIG. 9 is an example of a histogram of asymmetrically-distributed equalized signals after being corrected by the variable gain amplifier ~~and to~~ the reference levels of the Viterbi decoder. --

(d) Please replace par. [0064] with the following amended paragraph:

--[0064] The first embodiment is to provide ~~the an~~ information reproducing apparatus and the information reproducing method that reduce bit errors to appropriately correct equalized signals produced from the equalizer so as to correspond to reference levels of Viterbi decoding. To achieve this, correction processing (amplification) is performed so that the amount of expansion ~~between of each of~~ equalized signal histogram peaks corresponding to ~~waveforms~~ at the reference levels LV0 and LV6 in the histogram reaches the difference LVd between individual reference levels of the Viterbi decoder. --